



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Canadian  
Coast Guard

Garde côtière  
canadienne



Safety First. Service Always



# State and Outlook of the Canadian Icebreaker Fleet

4<sup>th</sup> Symposium – June 21, 2011

Canada 



- **Canadian Coast Guard Arctic Fleet Operations**
- **Canadian Coast Guard Arctic Icebreaker Fleet**
  - Vessels and condition
- **Polar Icebreaker**
  - CCGS JOHN D. DIEFENBAKER

# CCG ARCTIC FLEET OPERATIONS



- **Icebreaking**
  - Escorting commercial ships
  - Harbour breakouts
- **Search and Rescue**
- **Environmental Response**
- **Aids to Navigation**
- **Marine Security and Sovereignty**
- **Re-supplying isolated northern settlements**

# CCG ARCTIC ICEBREAKER FLEET



- **2 Heavy Icebreakers**
  - Louis S. St-Laurent and Terry Fox
- **4 Medium Icebreakers**
  - Henry Larsen
  - Pierre Radisson, Amundsen, and Des Groseilliers
- **1 High Endurance Multi-Tasked Vessel – Light Icebreaker**
  - Sir Wilfrid Laurier

# CCGS LOUIS S. ST-LAURENT



# CCGS LOUIS S. ST-LAURENT



- **Heavy Icebreaker**
- **Particulars**
  - Length: 119.8m
  - Breadth: 24.4m
  - Power: 20142kw
- **Year Built: 1969**
  - 42 years old
  - Modernized 1989 – 1993 (new props 2000)
- **Tentative Retirement Year: 2017**



# CCGS LSSL and USCGC HEALY



# CCGS TERRY FOX





# CCGS TERRY FOX



- **Heavy Icebreaker**
- **Particulars**
  - Length: 88m
  - Breadth: 17.8m
  - Power: 17300kw
- **Year Built: 1983**
  - 28 years old
- **Tentative Retirement Year: 2023**

# CCGS HENRY LARSEN





- **Medium Icebreaker**
- **Particulars**
  - Length: 99.8m
  - Breadth: 19.6m
  - Power: 12174kw
- **Year Built: 1987**
  - 24 years old
- **Tentative Retirement Year: 2031**

# CCGS PIERRE RADISSON



# CCGS AMUNDSEN





# CCGS DES GROSEILLIERS



# PIERRE RADISSON, AMUNDSEN and DES GROSEILLIERS



- **Medium Icebreakers**
- **Particulars**
  - Length: 98.2m
  - Breadth: 19.2m
  - Power: 10142kw
- **Years Built: 1978, 1979, 1982**
  - 29 to 33 years old
  - Amundsen modernized 2003 (science)
- **Tentative Retirement Years: 2027-2029**

# CCGS SIR WILFRID LAURIER





- **High Endurance Multi-Tasked Vessel – Light Icebreaker**
- **Particulars**
  - Length: 83m
  - Breadth: 16.2m
  - Power: 5250kw
- **Year Built: 1986**
  - 25 years old
- **Tentative Retirement Year: 2020**

# POLAR ICEBREAKER



- **Budget 2008 allocated \$720 million**
- **CCGS John D. Diefenbaker**
- **Delivery in 2017 – in time to replace CCGS Louis S. St. Laurent**
- **Government of Canada's Northern Strategy**
  - Federal programs in the North
  - Canadian Sovereignty



# CCGS JOHN D. DIEFENBAKER



# CCGS JOHN D. DIEFENBAKER



# POLAR ICEBREAKER



- **9 month Arctic operational season**
- **Concept vessel particulars:**
  - ~140m length; ~28m breadth; ~10m draft;
  - ~22,000 tonne displacement; and
  - ~40000kw installed power (diesel electric 3 shafts)
- **Detailed design contract Fall 2011**
- **Construction contract Fall 2013**



# Questions?

*Brian LeBlanc*

Regional Director Fleet  
Central and Arctic Region  
Canadian Coast Guard



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Canadian  
Coast Guard

Garde côtière  
canadienne



Safety First. Service Always



# Search and Rescue M/V Clipper Adventurer

4<sup>th</sup> Symposium – June 21, 2011

Canada





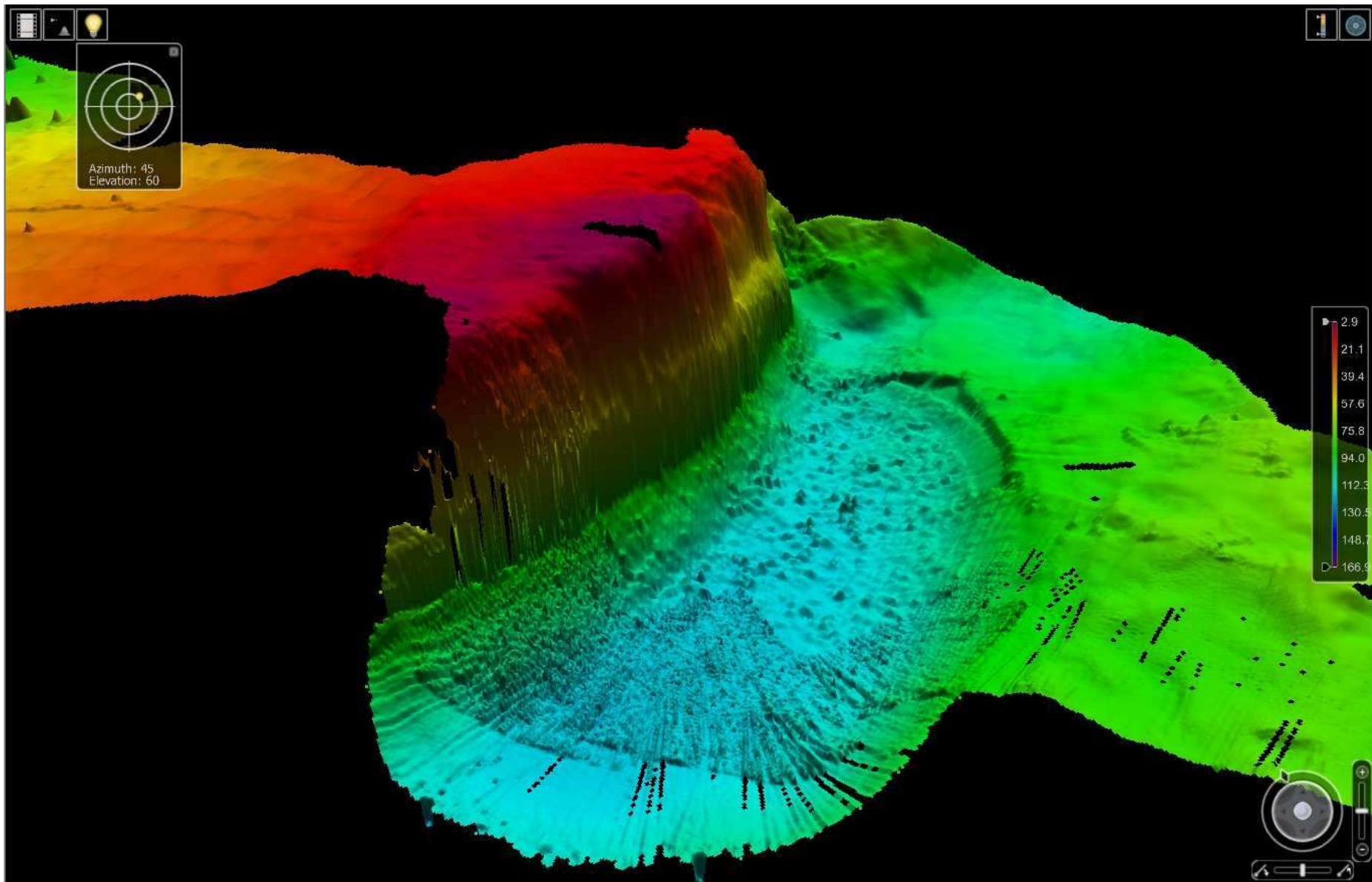
- **August 28 0103 UTC – P/V Clipper Adventurer reported:**
  - Hard aground (on “Uncharted shoal”)
  - 34nm east of Kugluktuk, Coronation Gulf
  - In 3 meters water (draft 4.6 meters)
  - No pollution or damage
  - No immediate danger
  - 128 passengers and 69 crew



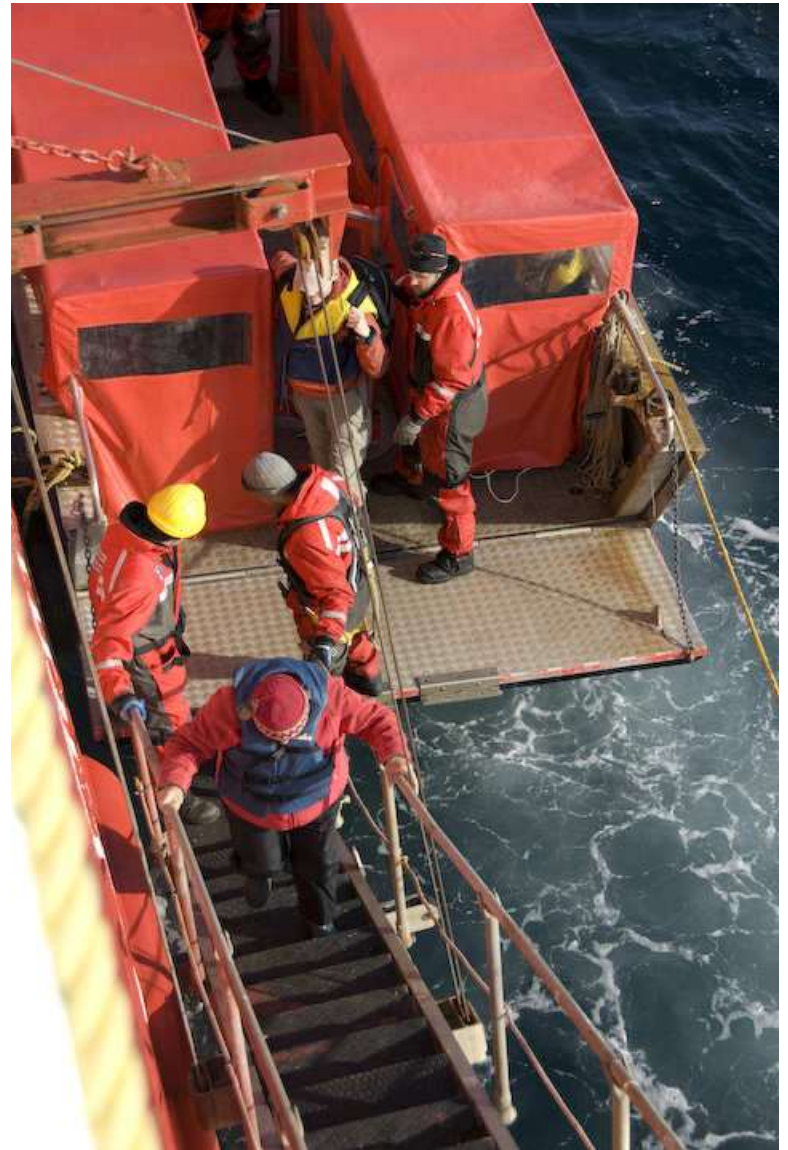














# SAR Tasking



- **JRCC Halifax and JRCC Trenton**
- **NGCC Amundsen**
  - 511nm away, 70nm north of Tuktoyuktuk
  - ETA August 30
- **Private Tug**
- **CCGS Sir Wilfrid Laurier**





# Questions?

*Brian LeBlanc*

Regional Director Fleet  
Central and Arctic Region  
Canadian Coast Guard

# Response



- **Non-essential passengers and crew removed.**
- **Transfer of fuel to internal secure tanks.**
- **Preliminary damage assessment.**
- **Bilge processing (through oil/water separators).**
- **Minor oil releases:**
  - September 2, unrecoverable volume
  - September 12, unrecoverable 200l

SSC MSS 6000 Mission: TC922-2010-050 2010-09-02 00:38:19 N67°58.47' W112°39.71' 312° 1030 ft 176.8 kts SCAM: Port Image: 0079





# Salvage and Recovery



- **Company engaged a salvage master and initiated a salvage/recovery plan**
- **Transport Canada provided oversight**
- **CCG monitored**
- **Plan objectives:**
  - Re-float vessel, ensuring structural stability and limiting pollution
  - Undertake repairs
  - Transit from Arctic for final repairs



# Post Re-floating

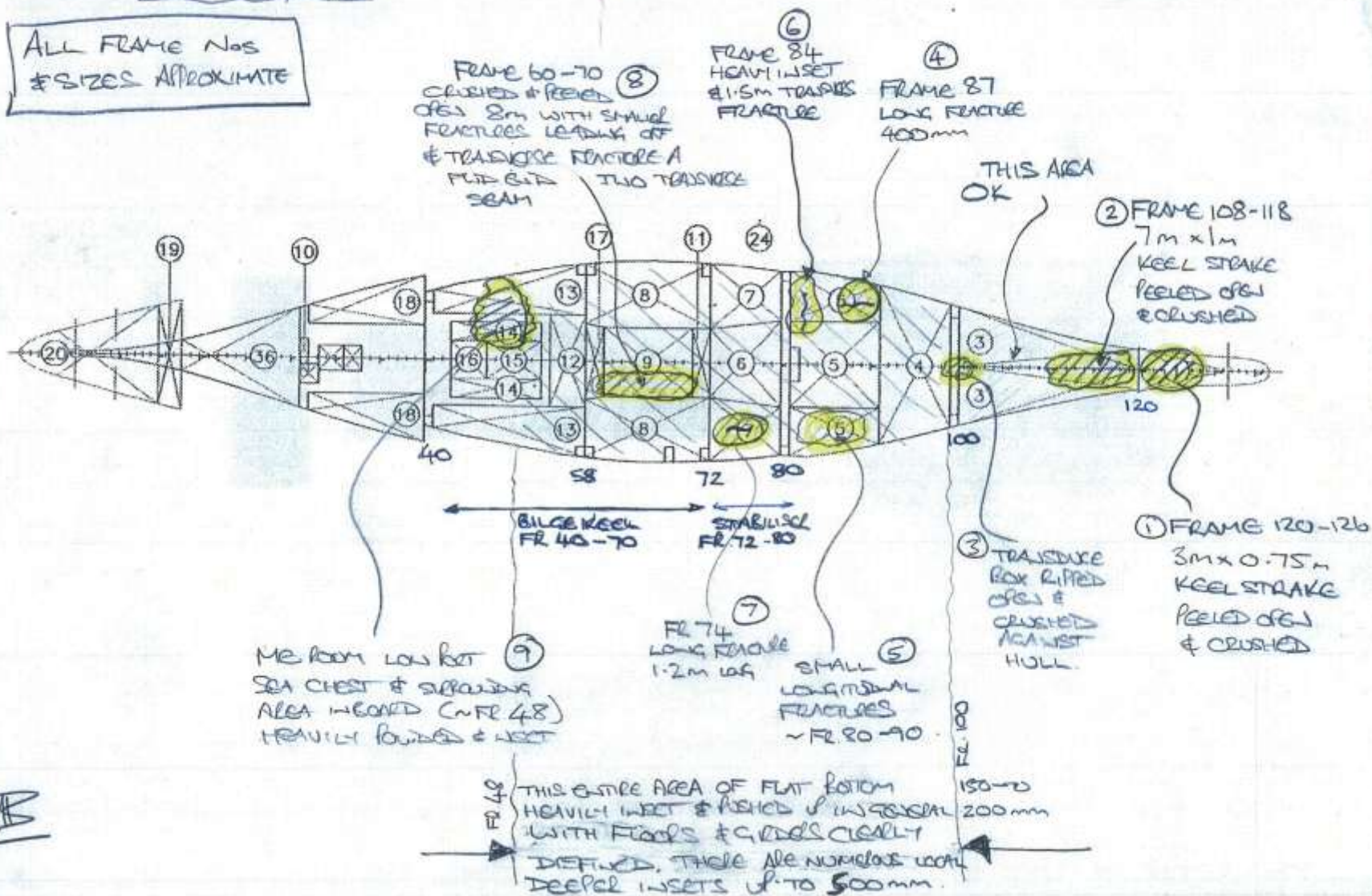


- **Tow to safe anchorage – Port Epworth**
- **Secondary damage assessment**
- **Preliminary repairs and transit clearances**
- **Tow to Cambridge Bay**
- **Secondary repairs to prepare vessel for longer transit out of the Arctic**
- **Tow to Pond Inlet**
- **Transit/Tow to Nuuk Greenland**

INITIAL DIVE SURVEY AFTER REFLOATING - SEPT. 15, 2010  
@ Port Elworth

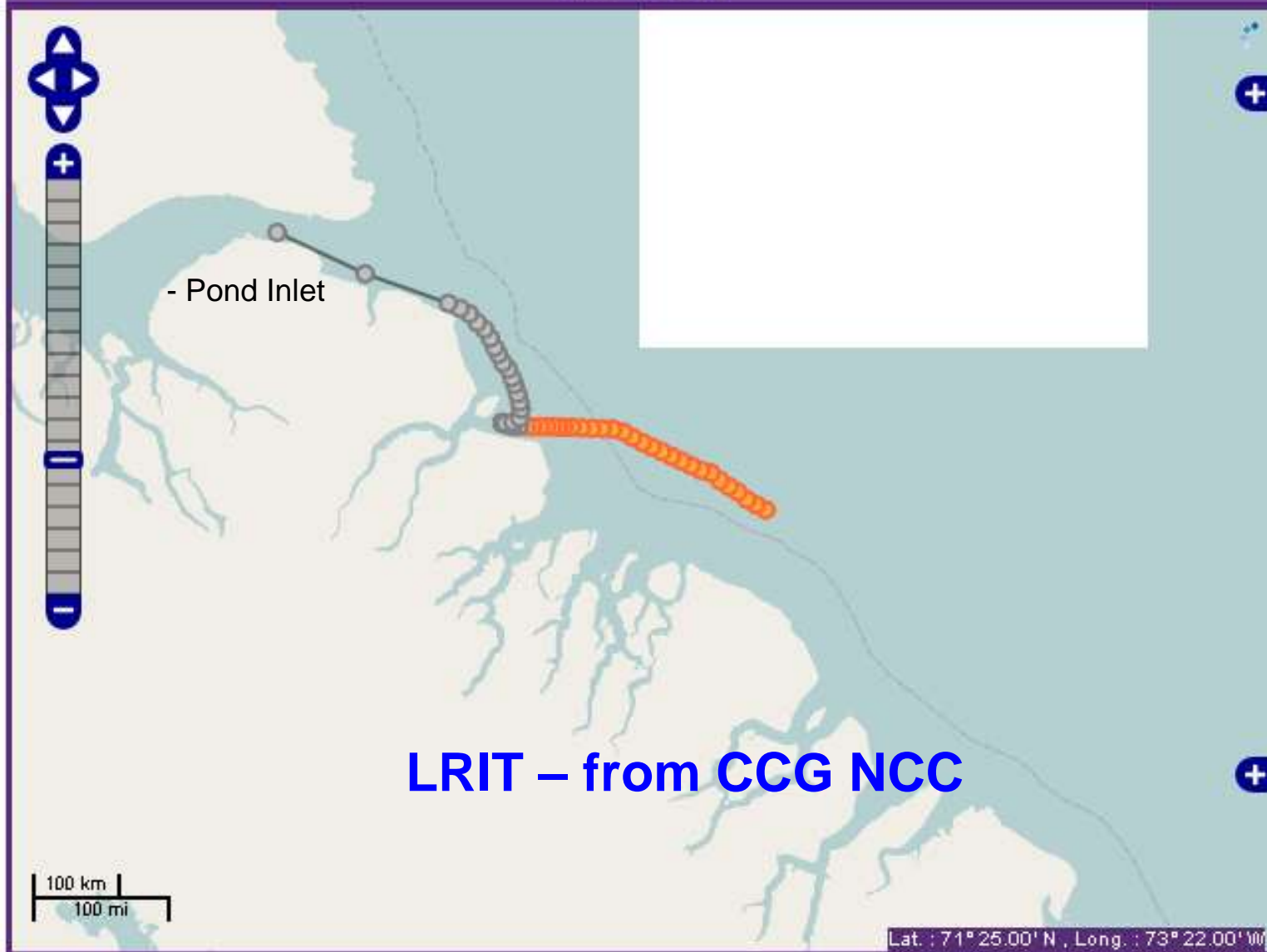
CLIPPER ADVENTURE

ALL FRAME Nos  
 & SIZES APPROXIMATE



ME

## Ship details



**LRIT – from CCG NCC**

IMO number

7391422



# Clipper – CCG in Summary



- **CCGS Sir Wilfrid Laurier**
  - Aug 30 to Sept 24: 24 Days
  - 80 m3 Fuel
- **CCGS Henry Larsen**
  - Sept 25 to Oct 9: 15 days
- **ER**
  - 2 Senior Response Officers 23 days
  - RAT 150 in Kugluktuk
  - Vessel Spill Response Kits
- **Ice Recon Aircraft CFR**





# Questions?

*Brian LeBlanc*

Regional Director Fleet  
Central and Arctic Region  
Canadian Coast Guard